

## CLAIMS

What is claimed is:

1. A method for determining flow of a particle-containing fluid at a plurality of determined locations in a subject body comprising:
  - a) transmitting a series of pulses of ultrasonic acoustic energy into the body from a probe, the probe consisting essentially of an array of transmitter and detector elements;
  - b) assigning the elements to a plurality of element groups comprising at least a first group and a second group;
  - c) sequentially transmitting at least a first pulse from the first group of transmitter elements and a second pulse from the second group of transmitter elements until all groups of elements have transmitted pulses into a respective portion of the studied region of the subject body adjacent to each group of transmitter elements;
  - d) repeating Step c) until a full dwell of pulses has been transmitted from each group of transmitter elements into each respective portion of the subject body and collecting Doppler shift data from reflections from each respective portion of the subject body;
  - e) repeating Step d) until sufficient Doppler shift data has been collected from detector elements adjacent to each portion of the subject body to permit calculations of fluid flow at a desired signal to noise ratio.

2. The method of Claim 1 comprising computing and storing or displaying an indication of the flow of the fluid